

What is claimed is:

1. A highway light with an automatic backup lighting system, including:
a voltage supply;
5 a switching mechanism communicating with the voltage supply;
a current sensing device communicating with the voltage supply and the switching mechanism;
a primary lamp communicating with the current sensing device and the voltage supply;
10 a secondary lamp communicating with the switching mechanism; and
the current sensing device activating the switching mechanism to direct voltage to the secondary lamp when the current sensing mechanism senses low amperage from its connection with the primary lamp.
- 15 2. A highway light with an automatic backup lighting system as set forth in claim 1, further including an enclosure housing the primary lamp, the secondary lamp, the switching mechanism, the current sensing device, and the voltage supply.
- 20 3. A highway light with an automatic backup lighting system as set forth in claim 1, wherein the current sensing device includes a current transformer and an ECS board.
- 25 4. A highway light with an automatic backup lighting system as set forth in claim 1, wherein the switching mechanism includes a relay having a coil and common, normally closed and normally open terminals.
5. A highway light with an automatic backup lighting system as set forth in claim 4, wherein the current sensing device includes a current transformer and an ECS board having a normally open terminal communicating with the coil of the relay.

6. A highway light with an automatic backup lighting system as set forth in claim 4, wherein the relay includes a common terminal and wherein the voltage supply provides power to the current sensing device and to the common terminal of the relay.

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7. A highway light with an automatic backup lighting system as set forth in claim 6, wherein the primary lamp communicates with the common and normally closed terminals of the relay.

10 8. A highway light with an automatic backup lighting system as set forth in claim 7, wherein the secondary lamp communicates with the normally open terminal of the relay.

15 9. A highway light with an automatic backup lighting system as set forth in claim 1, further including a voltage transformer communicating with the voltage supply, the switching mechanism and the current sensing device.

10. A method for providing automatic backup lighting for a highway light, including the steps of:

20 electrically connecting a switching mechanism with a voltage supply;
electrically connecting a current sensing device with the voltage supply and the switching mechanism;
electrically connecting a primary lamp with the current sensing device and the voltage supply;
25 electrically connecting a secondary lamp with the switching mechanism;
providing voltage to the primary lamp; and
switching the supply of voltage to the secondary lamp when the current sensing device senses low amperage in its connection with the primary lamp.

11. A method for providing automatic backup lighting for a highway light as set forth in claim 10, further including the step of providing an enclosure housing the voltage supply, the current sensing device, the switching mechanism, the primary lamp and the secondary lamp.

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12. A method for providing automatic backup lighting for a highway light as set forth in claim 10, wherein the step of electrically connecting the current sensing device with the voltage supply and the switching mechanism includes providing a current transformer and an ECS board as part of the current sensing device and connecting a
10 normally open terminal in the ECS board with the switching mechanism.

13. A method for providing automatic backup lighting for a highway light as set forth in claim 10, wherein the step of electrically connecting the switching mechanism with the voltage supply includes providing a relay as part of the switching mechanism
15 and connecting the voltage supply with a common terminal of the relay.

14. A method for providing automatic backup lighting for a highway light as set forth in claim 13, wherein the step of electrically connecting the primary lamp with the current sensing device and the switching mechanism includes connecting the primary
20 lamp with the common terminal and a normally open terminal of the relay.

15. A method for providing automatic backup lighting for a highway light as set forth in claim 13, wherein the step of electrically connecting the secondary lamp with the switching mechanism includes connecting the secondary lamp with a normally open
25 terminal of the relay.

16. A method for providing automatic backup lighting for a highway light as set forth in claim 10, further including the step of electrically connecting a voltage transformer to the voltage supply, the switching mechanism, and the current sensing device.

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17. A backup lighting circuit for a highway light having a voltage supply and a primary lamp, including:

a powered relay communicating with the voltage supply, said relay having a coil, and common, normally closed and normally open terminals and wherein the common terminal is connecting to the voltage supply and the common and normally closed terminals are connected with the primary lamp;

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a current sensing device having a current transformer and an ECS board and communicating with the voltage supply, the switching mechanism and the primary lamp, said ECS board having a normally open terminal connected with the coil of the relay;

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a secondary lamp connected with the normally open terminal of the relay; and the current sensing device activating the relay to direct voltage to the secondary lamp when the current sensing mechanism senses low amperage from its connection with the primary lamp.

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18. A backup lighting circuit for a highway light as set forth in claim 17, further including a voltage transformer communicating with the voltage supply, the switching mechanism, and the current sensing device.